

Work Order ID 151315***151315***

Page 1

Wednesday, September 21, 2016 8:15:24 AM

Item ID: D4121-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Hose Assembly
Start Date: 9/21/2016 Start Qty: 5.00 ***5*** Cust Item ID:
Required Date: 10/5/2016 Req'd Qty: 5.00 ***5*** Customer:
Reference:

Approvals: Process Plan: **DAS 21 9-29** Date: **SEP 21 2016** Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4121	D								
100	PURCHASING	0.00							DAS 13 9-29
100									
Purchasing	Memo	0.00							
Purchasing	Create D2729-1 label and include with W/O								
	Issue P/O: 33738								
	Hose Assembly as per Dwg D4121								
	Possible Supplier: API								
	Material release note is required								
110	Receive & Inspect for Damage & Mat'l Certs	0.00							
110									
Packaging	Memo	0.02							
Packaging	Ensure Material Release Note is attached								

5x 8/16-9-28

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition																			
				Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____																			
Misidentified ☐	Past Due ☐																				

Work Order ID 151315

Wednesday, September 21, 2016 8:15:24 AM

151315

Page 2

Item ID: D4121-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Hose Assembly
Start Date: 9/21/2016 Start Qty: 5.00 ***5*** Cust Item ID:
Required Date: 10/5/2016 Req'd Qty: 5.00 ***5*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC6- Inspect dimensions to drawing Memo	0.00 0.00				(5)			WAS 38 9-89 SEP 29 2016
130 *130* Small Fab Small Fab	Small Fab Memo Install D2729-1 as per Dwg D4121 using D2182-045 Heat Shrink Batch: <u>3112922</u>	0.00 0.08				5	FF		SEP 29 2016
140 *140* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.02				(5)			WAS 38 9-89 SEP 29 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																																	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																																		
Large Fab ☐	Composite ☐	Supplier ☐																																																																																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																																																																																	
Description Work Order Deviation			Disposition																																																																																		
			Completed By																																																																																		
			Lead hand / Supervisor Approval Verification																																																																																		
			QC / QA Coordinator Approval																																																																																		
<table style="width:100%; border: none;"> <tr> <td colspan="3" style="text-align: center; border-bottom: 1px solid black;">Root Cause</td> <td colspan="3" style="text-align: center; border-bottom: 1px solid black;">FAULT CATEGORY</td> </tr> <tr> <td style="width:15%; border: none;">Environment ☐</td> <td style="width:15%; border: none;">☐ No Re-verification</td> <td style="width:15%; border: none;">☐ Pressure/Forced</td> <td style="width:15%; border: none;">☐ Temperature/Cure</td> <td style="width:15%; border: none;">☐ Power Loss/Surge</td> <td style="width:15%; border: none;">☐ Positioned Wrong</td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">☐ Operator</td> <td style="border: none;">☐ Bending</td> <td style="border: none;">☐ Set-up</td> <td style="border: none;">☐ Folio/Program</td> <td style="border: none;">☐ Outside Dimensions</td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">☐ Offset/Setup</td> <td style="border: none;">☐ Centre Not Concentric</td> <td style="border: none;">☐ BOM/Route</td> <td style="border: none;">☐ Grain</td> <td style="border: none;">☐ Over/Under tolerance</td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">☐ Supplier</td> <td style="border: none;">☐ Cracks</td> <td style="border: none;">☐ Broken/Damage/Defect</td> <td style="border: none;">☐ Weld</td> <td style="border: none;">☐ Part Incorrect</td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">☐ Training</td> <td style="border: none;">☐ Crimp/Kink/Ripple/Wave</td> <td style="border: none;">☐ Inspection Incomplete/Unqualified</td> <td style="border: none;">☐ Wrong Stock Pulled</td> <td style="border: none;">☐ Part Lost/Missing</td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">☐ Use for Testing</td> <td style="border: none;">☐ Cuffs</td> <td style="border: none;">☐ Contamination</td> <td style="border: none;">☐ Out of Sequence</td> <td style="border: none;">☐ Part Moved</td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">☐ Poor Information</td> <td style="border: none;">☐ Crushing</td> <td style="border: none;">☐ Countersink</td> <td style="border: none;">☐ Off-set</td> <td style="border: none;">☐ Drawing</td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">☐ Rushing</td> <td style="border: none;">☐ Heat Treat</td> <td style="border: none;">☐ Cut Too Short</td> <td style="border: none;">☐ Misabeled</td> <td style="border: none;">☐ Finish</td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">☐ Product Improvement</td> <td style="border: none;">☐ Wave/Twist in Tube</td> <td style="border: none;">☐ Instructions Incomplete/Unclear</td> <td style="border: none;">☐ Fit/Function</td> <td style="border: none;">☐ Misread</td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">☐ Process Improvement</td> <td style="border: none;">☐ Marks/Chatter</td> <td style="border: none;">☐ Drill Holes</td> <td style="border: none;">☐ Misaligned/off center</td> <td style="border: none;">☐ Turning Sequence</td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">☐ Manufacturing Process</td> <td colspan="4" rowspan="2" style="border: none;"></td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">☐ Past Due</td> </tr> <tr> <td colspan="6" style="border: none;"> OTHER : </td> </tr> </table>						Root Cause			FAULT CATEGORY			Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong	Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions	Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance	Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect	Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing	Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved	Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing	Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Misabeled	☐ Finish	LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread	Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence	Past Expiry Date ☐	☐ Manufacturing Process					Misidentified ☐	☐ Past Due	OTHER :					
Root Cause			FAULT CATEGORY																																																																																		
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong																																																																																
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions																																																																																
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance																																																																																
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect																																																																																
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing																																																																																
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved																																																																																
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing																																																																																
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Misabeled	☐ Finish																																																																																
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread																																																																																
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence																																																																																
Past Expiry Date ☐	☐ Manufacturing Process																																																																																				
Misidentified ☐	☐ Past Due																																																																																				
OTHER :																																																																																					

Work Order ID 151315***151315***

Page 3

Wednesday, September 21, 2016 8:15:24 AM

Item ID: D4121-3

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Hose Assembly

Start Date: 9/21/2016 Start Qty: 5.00

5

Cust Item ID:

Required Date: 10/5/2016 Req'd Qty: 5.00

5

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

Identify as per dwg & Stock Location: Slab

0.00

150

Packaging

Memo

0.01

Packaging

5

SEP 29 2016

DAS
6
9-89

160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

0.08

Quality Control

DAS
21
9-89

SEP 30 2016

DAS
21
9-89

SEP 30 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																															
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																																
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																																
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																																
Large Fab ☐	Composite ☐	Supplier ☐																																																																																	
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																																																																															
Description Work Order Deviation			Disposition																																																																																
			Completed By																																																																																
			Lead hand / Supervisor Approval Verification																																																																																
			QC / QA Coordinator Approval																																																																																
<table style="width:100%; border: none;"> <tr> <td colspan="3" style="text-align: center; vertical-align: top;"> Root Cause <table style="width:100%; border: none;"> <tr> <td style="border: none;">Environment ☐</td> <td style="border: none;">No Re-verification ☐</td> <td style="border: none;">Pressure/Forced ☐</td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">Operator ☐</td> <td style="border: none;">Bending ☐</td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">Offset/Setup ☐</td> <td style="border: none;">Centre Not Concentric ☐</td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;">Cracks ☐</td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">Training ☐</td> <td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">Use for Testing ☐</td> <td style="border: none;">Cuffs ☐</td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">Poor Information ☐</td> <td style="border: none;">Crushing ☐</td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">Rushing ☐</td> <td style="border: none;">Heat Treat ☐</td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">Product Improvement ☐</td> <td style="border: none;">Wave/Twist in Tube ☐</td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">Process Improvement ☐</td> <td style="border: none;">Marks/Chatter ☐</td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">Manufacturing Process ☐</td> <td></td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">Past Due ☐</td> <td></td> </tr> </table> </td> <td colspan="3" style="text-align: center; vertical-align: top;"> FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="border: none;">Temperature/Cure ☐</td> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Set-up ☐</td> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table> </td> </tr> <tr> <td colspan="6" style="text-align: center;"> OTHER : ☐ </td> </tr> </table>						Root Cause <table style="width:100%; border: none;"> <tr> <td style="border: none;">Environment ☐</td> <td style="border: none;">No Re-verification ☐</td> <td style="border: none;">Pressure/Forced ☐</td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">Operator ☐</td> <td style="border: none;">Bending ☐</td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">Offset/Setup ☐</td> <td style="border: none;">Centre Not Concentric ☐</td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;">Cracks ☐</td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">Training ☐</td> <td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">Use for Testing ☐</td> <td style="border: none;">Cuffs ☐</td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">Poor Information ☐</td> <td style="border: none;">Crushing ☐</td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">Rushing ☐</td> <td style="border: none;">Heat Treat ☐</td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">Product Improvement ☐</td> <td style="border: none;">Wave/Twist in Tube ☐</td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">Process Improvement ☐</td> <td style="border: none;">Marks/Chatter ☐</td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">Manufacturing Process ☐</td> <td></td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">Past Due ☐</td> <td></td> </tr> </table>			Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Design ☐	Operator ☐	Bending ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Past Expiry Date ☐	Manufacturing Process ☐		Misidentified ☐	Past Due ☐		FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="border: none;">Temperature/Cure ☐</td> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Set-up ☐</td> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table>			Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Countersink ☐	Off-set ☐	Drawing ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	OTHER : ☐					
Root Cause <table style="width:100%; border: none;"> <tr> <td style="border: none;">Environment ☐</td> <td style="border: none;">No Re-verification ☐</td> <td style="border: none;">Pressure/Forced ☐</td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">Operator ☐</td> <td style="border: none;">Bending ☐</td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">Offset/Setup ☐</td> <td style="border: none;">Centre Not Concentric ☐</td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;">Cracks ☐</td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">Training ☐</td> <td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">Use for Testing ☐</td> <td style="border: none;">Cuffs ☐</td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">Poor Information ☐</td> <td style="border: none;">Crushing ☐</td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">Rushing ☐</td> <td style="border: none;">Heat Treat ☐</td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">Product Improvement ☐</td> <td style="border: none;">Wave/Twist in Tube ☐</td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">Process Improvement ☐</td> <td style="border: none;">Marks/Chatter ☐</td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">Manufacturing Process ☐</td> <td></td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">Past Due ☐</td> <td></td> </tr> </table>			Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Design ☐	Operator ☐	Bending ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Past Expiry Date ☐	Manufacturing Process ☐		Misidentified ☐	Past Due ☐		FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="border: none;">Temperature/Cure ☐</td> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Set-up ☐</td> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table>			Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Countersink ☐	Off-set ☐	Drawing ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐												
Environment ☐	No Re-verification ☐	Pressure/Forced ☐																																																																																	
Design ☐	Operator ☐	Bending ☐																																																																																	
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐																																																																																	
Equip/Tooling ☐	Supplier ☐	Cracks ☐																																																																																	
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐																																																																																	
Material ☐	Use for Testing ☐	Cuffs ☐																																																																																	
Internal Transport ☐	Poor Information ☐	Crushing ☐																																																																																	
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐																																																																																	
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐																																																																																	
Substation ☐	Process Improvement ☐	Marks/Chatter ☐																																																																																	
Past Expiry Date ☐	Manufacturing Process ☐																																																																																		
Misidentified ☐	Past Due ☐																																																																																		
Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																																																																																	
Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																																	
BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																																																																																	
Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																																																																																	
Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																																	
Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																																	
Countersink ☐	Off-set ☐	Drawing ☐																																																																																	
Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																																	
Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																																	
Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																																	
OTHER : ☐																																																																																			

Picklist Print

Wednesday, September 21, 2016 8:15:27 AM

Page 1

Work Order ID: 151315

151315

Parent Item: D4121-3

D4121-3

Parent Item Name: Hose Assembly

Start Date: 9/21/2016

Required Date: 10/5/2016

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV:A NEW ISSUE 10-10-05 JLM VERIFIED BY:DD IPP
REV:B AS PER ECN 11-598 11-06-05 JLM VERF:DD IPP REV:C
11.11.16 AS PER DWG REV.D DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
156003-6D0590 *156003-6D0590* Hose Assembly		Purchased	No			110	Each	0.0000	1	5			
									**	5x 80169-28			
D2182-045 *D2182-045* Heat Shrink 4.5" Long		Manufactured	No			130	Each	0.0000	1	5			
									**	5 FF SEP 29 2016			
D2729-1 *D2729-1* Part Id Label (Re-Issue)		Manufactured	Yes			130	Each	0.0000	1	5			
									**	5 FF SEP 29 2016			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

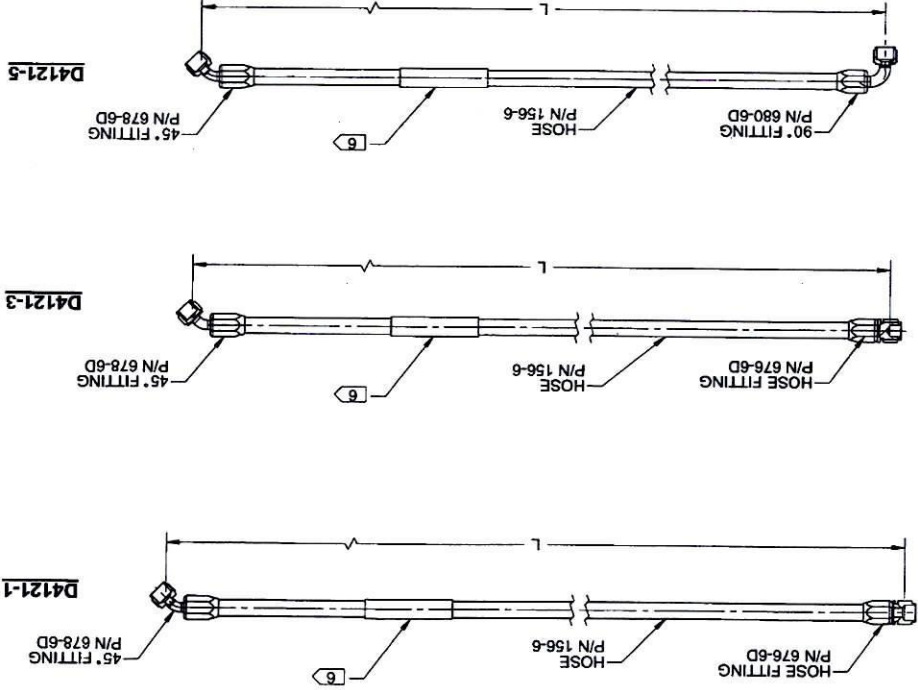
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER :																					

DATE 11.11.14		DESIGN	RF
DE APPR.		DRAWN	RF
APPROVED		CHECKED	RF
MFG. APPR.		DRAWING NO.	D4121
TITLE		REV. D	SCALE
HOSE ASSEMBLIES		SHEET 1 OF 1	
COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.		NOT TO BE USED FOR ANY PURPOSE OR CONVEYED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

REV.	DESCRIPTION	DATE
A	NEW ISSUE	10.09.16
B	NOTE 8 (ZN B8-1) UPDATE STRATORFLEX P/N (ZN C2-1) UPDATE WAS 676-6S (ZN D8-1, C8-1) P/N 680-6D WAS P/N 676-6D P/N 676-6D WAS P/N 676-6S (ZN C4-1, B4-1) P/N 676-6D	11.03.07
C	ADD P/N 156062D1054D000 TO D4121-5	11.07.27
D	P/N 156003-6D0590 WAS 156003-6D0570 (ZN D2-1)	11.11.14

NOTES:
1) MATERIAL: N/A
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N & B/N USING D2729-1 LABEL INSTALLED WITH D2182-045 HEAT SHRINK
7) WEIGHT: N/A
8) STAINLESS STEEL COVERING TO HAVE MINIMUM THICKNESS OF 0.015"



DART P/N	STRATORFLEX P/N	VENDOR	L
D4121-5	156062D1054D000	API/ AVIAL	105.50
D4121-3	156003-6D0590	API/ AVIAL	59.00
D4121-1	156003-6D0274	API/ AVIAL	27.50

RELEASED
2011-11-16

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER NO. 151315 MLS
16-09-21

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																		
Large Fab ☐	Composite ☐	Supplier ☐																																																																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																																																																	
Description Work Order Deviation			Disposition																																																																		
						Completed By																																																															
						Lead hand / Supervisor Approval Verification																																																															
QC / QA Coordinator Approval																																																																					
Root Cause <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Environment ☐</td> <td style="border: none;">No Re-verification ☐</td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">Operator ☐</td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">Offset/Setup ☐</td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">Supplier ☐</td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">Training ☐</td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">Use for Testing ☐</td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">Poor Information ☐</td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">Rushing ☐</td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">Product Improvement ☐</td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">Process Improvement ☐</td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">Manufacturing Process ☐</td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">Past Due ☐</td> </tr> </table>			Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Pressure/Forced ☐</td> <td style="border: none;">Temperature/Cure ☐</td> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Bending ☐</td> <td style="border: none;">Set-up ☐</td> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">Centre Not Concentric ☐</td> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Cracks ☐</td> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Cuffs ☐</td> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Crushing ☐</td> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Heat Treat ☐</td> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Wave/Twist in Tube ☐</td> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Marks/Chatter ☐</td> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table>			Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Environment ☐	No Re-verification ☐																																																																				
Design ☐	Operator ☐																																																																				
Doc/Data ☐	Offset/Setup ☐																																																																				
Equip/Tooling ☐	Supplier ☐																																																																				
Handling/Pre ☐	Training ☐																																																																				
Material ☐	Use for Testing ☐																																																																				
Internal Transport ☐	Poor Information ☐																																																																				
Tribal Knowledge ☐	Rushing ☐																																																																				
LOA ☐	Product Improvement ☐																																																																				
Substation ☐	Process Improvement ☐																																																																				
Past Expiry Date ☐	Manufacturing Process ☐																																																																				
Misidentified ☐	Past Due ☐																																																																				
Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																																																																		
Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																		
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																																																																		
Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																																																																		
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																		
Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																		
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																		
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																		
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																		
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																		
OTHER :																																																																					



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO33738**

Purchase Order Date 9/22/2016

PO Print Date 9/26/2016

Page Number 1 of 5

Order From :

AVIALL
PO BOX 842275

DALLAS, TX 75284-2275
USA

VU-AVI003

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

REVISED

Contact Name

Vendor Phone 905-676-1695

Ship To Contact

Ship To Phone

Ship Via: FedEx Overnight collect

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

USD

EXW - (Ex Works)

m13546

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	156003-6D0274 AS PER DWG D4121 REV. D B151314	Hose Assembly	9/29/2016 Yes 9/29/2016		10.00 Each	\$202.62	\$2,026.20
						Line Total:	\$2,026.20
2	156003-6D0590 AS PER DWG D4121 REV. D B151315	Hose Assembly	9/29/2016 Yes 9/29/2016		5.00 Each	\$242.55	\$1,212.75
						Line Total:	\$1,212.75
3	156062D1054D000 AS PER DWG D4121 REV. D B151316	Hose Assembly	9/29/2016 Yes 9/29/2016		5.00 Each	\$439.80	\$2,199.00

8016-9-28

PO Instructions: Fedex Acc#151793240

Note:

9/26/2016



PACKING LIST



DELIVERY NUMBER: 8003602752

ROUTE: US FedEx International Priority

DATE: 27SEP16
TIME: 14:44:00
EMP: 00000000
ORD TYP: ZOR 169
CURRENCY: USD
TERMS: Net 30

CUSTOMER PO: PO33738
ORDER NUMBER: 1002495278
ORDER DATE: 23SEP16

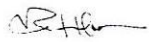
10003952
DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY ON K6A 1K7
CANADA

S 10003952
H DART AEROSPACE LTD
I 1270 ABERDEEN STREET
P HAWKESBURY ON K6A 1K7
T CANADA
O

S 1009
H AVIALL DALLAS HOSE SHOP
I DALLAS HOSE SHOP
P 2755 REGENT BLVD
F DFW AIRPORT TX 75261
R USA
O

LINE	PO LINE	MFG	ITEM DESCRIPTION	ORDER QUANTITY	SHIP QUANTITY	QUANTITY BACK ORDER	UOM	CUSTOMER PRICE	EXTENDED CUSTOMER PRICE
0010	0	1S	156003-6D0274 HOSE: MED PRESSURE,RUBBER	10	10	0	EA	202.62	2,026.20
			BATCH 100101277		10				
0020	0	1S	156003-6D0590 HOSE: MED PRESSURE,RUBBER	5	5	0	EA	242.55	1,212.75
			BATCH 100101278		5				
0030	0	1S	156062D1054D000 HOSE: MED PRESSURE,RUBBER	5	5	0	EA	439.80	2,199.00
			BATCH 100101279		5				

This is not an Invoice.
For payment processing, please refer to Invoice.

The recipient of these goods agrees to comply with all export regulations governing the transfer, sale, lease, or use of these goods. Diversion contrary to U.S. Law is prohibited.	
CERTIFICATE OF CONFORMANCE It is hereby certified that Aviall Services, Inc., is an approved distributor and meets all requirements of ISO9001, AS9100, AS9120 and AC 00-56 at 2750 Regent Blvd. DFW Airport, Texas. The products, articles or parts referenced on this document are in new or overhauled condition and were purchased from an approved source (FAA, EASA, TCCA, Mil Spec or Commercial). The Original Manufacturers' Certifications are maintained on file at our central office location, and copies are available upon request or at Aviall.com. For overhauled or repaired products, articles or parts, the original FAA 8130-3 / EASA Form 1 (Return to Service) or Yellow Tag, from the FAA/JAA/EASA approved Air Agency are attached to the component.  JR Hofmann, Director, Global Quality	DISCOUNT TERMS APPLY ONLY TO SUB TOTAL. ALL RETURNED MERCHANDISE SUBJECT TO HANDLING FEE. THIS IS TO CERTIFY THAT AVIALL HAS COMPLIED WITH THE PROVISIONS OF THE FAIR LABOR ACT OF 1938 AMENDED. CUSTOMER COPY



A BOEING COMPANY

Commercial Invoice

AVIALL SERVICES INC
2750 REGENT BLVD
DFW AIRPORT TX 75261
USA

Government Transaction Number

NOEEI FTR 30.36

Delivery Number

8003602752

Tracking Number

Commercial Invoice Number

9304456943

Incoterms

EXW Shipping Point

Ship Date

26 September, 2016

Sold To DART AEROSPACE LTD 1270 ABERDEEN STREET HAWKESBURY ON K6A 1K7 CANADA	10003952	Ultimate Consignee DART AEROSPACE LTD 1270 ABERDEEN STREET HAWKESBURY ON K6A 1K7 CANADA	10003952	Ship To DART AEROSPACE LTD 1270 ABERDEEN STREET HAWKESBURY ON K6A 1K7 CANADA	10003952	Freight Forwarder FEDEX FEDEX NATIONAL LTL INC PO BOX 94515 PALATINE IL 60094-4515 USA Tax Number: 20-4734803	400010
--	----------	---	----------	--	----------	---	--------

Comments:

Item	Part Number & Description	Country of Origin	Quantity	UOM	Unit Value USD	Extended Value USD
10	156003-6D0274 - HOSE: MED PRESSURE,RUBBER Export Tariff: 4009220050 Import Tariff: 4009220000 Export Classification: 9A991.d Authorization: NLRAT_SEP_2016 Purchase Order: Sales Order: 1002495278 Customer PN: PO: PO33738	US	10	EA	202.62	2,026.20
20	156003-6D0590 - HOSE: MED PRESSURE,RUBBER Export Tariff: 4009220050 Import Tariff: 4009220000 Export Classification: 9A991.d Authorization: NLRAT_SEP_2016 Purchase Order: Sales Order: 1002495278 Customer PN: PO: PO33738	US	5	EA	242.55	1,212.75
30	156062D1054D000 - HOSE: MED PRESSURE,RUBBER Export Tariff: 4009220050 Import Tariff: 4009220000 Export Classification: 9A991.d Authorization: NLRAT_SEP_2016 Purchase Order: Sales Order: 1002495278 Customer PN: PO: PO33738	US	5	EA	439.80	2,199.00



A BOEING COMPANY

Commercial Invoice

Delivery Number	Commercial Invoice Number
8003602752	9304456943

Item	Part Number & Description	Country of Origin	Quantity	UOM	Unit Price USD	Extended Value USD
------	---------------------------	-------------------	----------	-----	-------------------	-----------------------

Gross Value	5,437.95
Add on Charges	
Tax Value	
Freight Charges	
Total Net Value	5,437.95

**FOR CUSTOMS PURPOSES ONLY
NOT A BILLING INVOICE**

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US laws is prohibited.

Sp16-9-28.



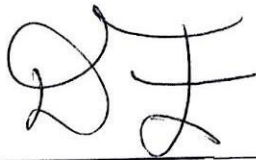
Hose Shop 2755 Regent Blvd. DFW Airport 75261
Phone 972-586-1380 Fax 972-586-1381 www.aviall.com

TSO CERTIFICATION

It is hereby certified that (A) The parts and/or materials reflected herein were produced under Federal Aviation Administration approved manufacturing and quality control system/methods as set forth in the FAA issued technical standard order authorizations (TSOA) issued to Stratoflex and (B) such part and/or materials are new and are in condition for safe operation.
Aviall Order Number: 1002495278

Part Numbers:

1. 156062D1054D000 5EA.
2. 156003-6D0590 5EA.
3. 156003-6D0274 10EA.

Signed: 

Date: 9-26-16

"Aviall is not providing OEM parts. Aviall is an authorized Stratoflex distributor providing TSO assemblies. Numbers referenced per customer requirements are for customer reference ONLY and are in no way intended to be represented as OEM parts. Any reference to an OEM part number does not authorize or reflect installation authority for this part. The installation authority is provided by the mechanic installing this product in accordance with FAR Part 43".

If applicable, satisfactory compliance with the conditions and tests required for TSO approval indicates the hose assembly has met the minimum performance standards as stated in the TSO. Furthermore, it is the responsibility of the installer to determine the installation eligibility and that it will not cause the hose assembly to be subjected to conditions in excess of those for which it has been approved.

FORM# CERT -001